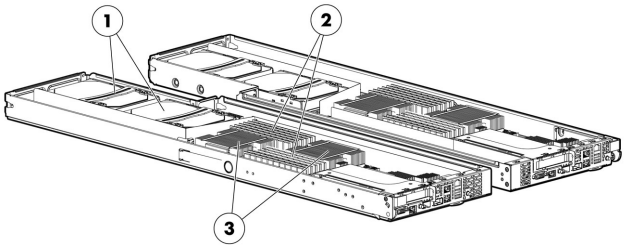
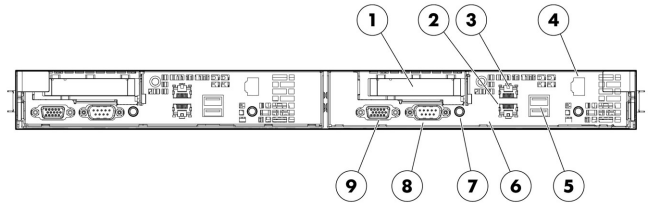
Overview

The HP ProLiant SL170s G6 Server is part of a new family, HP ProLiant SL6500, of HP server solutions optimized for scale-out customers to greatly reduce costs, maximize power efficiency, by sharing power supplies and fans, and maintain total flexibility.

Eight independent HP ProLiant SL170s G6 Servers go into the 4U HP ProLiant s6500 Chassis. The server supports up to two Intel® Xeon® processors with 16 DDR3 DIMM sockets, 2 LFF, 4 SFF or 4 SSD hard drives and support for a low profile x16 PCI-e Gen 2





Open View:

1. Two 3.5" or Four 2.5" non-hot plug hard drives using a quick release drive carrier
2. 16 DDR3 DIMM slots
3. Up to two Intel® 5600 sequence processors

Front View:

1. Optional low profile x16 PCI-e Gen 2
2. (1) 1Gbit NIC port 1
3. (1) 1Gbit NIC port 2
4. Optional Dedicated Management port
5. (2) USB Ports
6. Power Button
7. UID
8. Serial Port
9. Video Port

What's New

- Now support for up to two 130w Xeon processors
- Now supporting the new Intel Xeon 5600 series processors

NOTE: For the Standard Features shipped in the Factory Integrated Models, please see the "Configuration Information - Factory Integrated Models" section.

Processor One of the following depending on Model	Six-Core Processor Intel® Xeon® Processor X5690 (3.46 GHz,12MB L3 Cache, 130 Watts, DDR3-1333, HT Turbo 2/2/2/2/3/3) Intel® Xeon® Processor X5675 (3.06 GHz,12MB L3 Cache, 95 Watts, DDR3-1333, HT Turbo 2/2/2/2/3/3) Intel® Xeon® Processor X5670 (2.93 GHz,12MB L3 Cache, 95 Watts, DDR3-1333, HT Turbo 2/2/2/2/3/3) Intel® Xeon® Processor X5660 (2.80 GHz, 12MB L3 Cache, 95 Watts, DDR3-1333, HT Turbo 2/2/2/2/3/3) Intel® Xeon® Processor X5650 (2.66 GHz, 12MB L3 Cache, 95 Watts, DDR3-1333, HT Turbo 2/2/2/2/3/3) Intel® Xeon® Processor E5649 (2.53 GHz,12MB L3 Cache, 80 Watts, DDR3-1333, HT Turbo 1/1/1/1/2/2) Intel® Xeon® Processor E5645 (2.40 GHz,12MB L3 Cache, 80 Watts, DDR3-1333, HT Turbo 1/1/1/1/2/2) Intel® Xeon® Processor L5640 (2.26 GHz, 12MB L3 Cache, 60 Watts, DDR3-1333, HT Turbo 2/2/3/3/4/4) Quad-Core Processors Intel® Xeon® Processor X5687 (3.60 GHz,12MB L3 Cache, 130 Watts, DDR3-1333, HT Turbo 2/2/3/3) Intel® Xeon® Processor X5672 (3.20 GHz,12MB L3 Cache, 95 Watts, DDR3-1333, HT Turbo 2/2/3/3) Intel® Xeon® Processor X5667 (3.06 GHz, 12MB L3 Cache, 95 Watts, DDR3-1333, HT Turbo 2/2/3/3) Intel® Xeon® Processor E5640 (2.66 GHz, 12MB L3 Cache, 80 Watts, DDR3-1066, HT Turbo 1/1/2/2) Intel® Xeon® Processor E5630 (2.53 GHz, 12MB L3 Cache, 80 Watts, DDR3-1066, HT Turbo 1/1/2/2) Intel® Xeon® Processor E5620 (2.40 GHz, 12MB L3 Cache, 80 Watts, DDR3-1066, HT Turbo 1/1/2/2) Intel® Xeon® Processor E5606 (2.13 GHz, 4MB L3 Cache, 80 Watts, DDR3-1066) Intel® Xeon® Processor E5506 (2.13 GHz, 4MB L3 Cache, 80 Watts, DDR3-800) Intel® Xeon® Processor L5630 (2.13 GHz, 12MB L3 Cache, 40 Watts, DDR3-1066, HT Turbo 1/1/2/2) Intel® Xeon® Processor E5603 (1.6 GHz, 4MB L3 Cache, 80 Watts, DDR3-1066) Dual Core Processors Intel® Xeon® Processor E5503 (2.00GHz, 4MB L3 Cache, 80 Watts, DDR3-800) NOTE: HT indicates that the processor model supports Intel® Hyper-Threading Technology NOTE: Turbo indicates the maximum potential frequency increment when using Intel® Turbo Boost Technology, with 4, 3, 2, and 1 cores active. NOTE: DDR3 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed. NOTE: For the Intel 5500 Series, the letter preceding the model number indicates the

Standard Features

performance/wattage of the processor. "X" denotes High Performance/Wattage; "E" denotes Enterprise Performance/Wattage (Mainstream), and "L" denotes Lower Wattage.
NOTE: Up to 2 processors supported. Mixing different processor models is not supported.

Cache Memory
One of the following depending on Model

12MB (1 x 12MB) Level 3 cache
NOTE: All 5600 sequence processor models.
4MB (1 x 4MB) Level 3 cache
NOTE: For processors E5506/E5606 and E5503/E5603.

Chipset

Intel® 5520 Chipset
NOTE: For more information regarding Intel chipsets, please see the following URL: http://www.intel.com/products/server/chipsets/

Upgradeability

Upgradeable to two processors

Memory Protection

Advanced ECC (multi-bit error protection)
Lock-step mode

Memory

Type	DDR3 Registered (RDIMM) or Unbuffered (UDIMM)
Standard (per server tray)	6GB (3 x 2 GB) UDIMMs
Maximum (RDIMM) (per server tray)	192GB (12 x 16GB) for Registered Memory configurations
Maximum (UDIMM) (per server tray)	48GB (12 x 4GB) for Unbuffered Memory configurations

NOTE: Depending on the memory configuration and processor model, the memory speed may run at 1333MHz, 1066MHz, or 800MHz. Please see the Online Memory Configuration Tool at: www.hp.com/go/ddr3memory-configurator.
NOTE: Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: www.hp.com/go/proliant-energy-efficient.

Network Controller

HP NC362i Integrated Dual Port Gigabit Server Adapter

Expansion Slots

Expansion Slots #	Technology	Bus Width**	Connector Width	Form Factor	Notes
1	PCI-Express 2.0	x16	x16	Low Profile	3.3 volts

** Indicates the number of physical electrical lanes running to the connector.

Standard Features

Storage Controller	HP Embedded Smart Array B110i SATA RAID Controller (RAID 0, 1, 10) per server node NOTE: To enable RAID on Embedded SATA, use the HP Smart Array B110i SATA Raid controller, To enable use of the B110i, enter the ROM based setup utility(RBSU). The option for enabling RAID can be found in the advanced section of the RBSU. For additional details www.hp.com/go/SATARAID NOTE: Transfer rate: 3.0 Gb/s SATA. NOTE: A HP Smart Array controller is required for SAS Hard Drives NOTE: An external diskette drive, USB floppy drive key or virtual FDD using LO100 Advanced Pack is needed to install storage controller drivers during a Windows operating system installation from a CD.		
Internal Storage Devices	Diskette Drives	Via USB only	
	Optical Drives	DVD / CD drives via USB only	
	Hard Drives	None ship standard	
		Up to 2 Non-hot plug SATA or SAS 3.5" drives	
		Up to 4 Non-hot plug SATA, SAS, or SSD 2.5" drives (requires SFF drive cage)	
Maximum Internal Storage	Non-Hot Plug SATA 3.5"	4.0TB	2 x 4TB
	Non-Hot Plug SAS 3.5"	600GB	2 x 300GB
	Non-Hot Plug SATA 2.5"	2TB	4 x 500GB
	Non-Hot Plug SAS 2.5"	1.2TB	4 x 300GB
	Non-Hot Plug SSD 2.5"	480GB	4 x 120GB
Interfaces	Parallel	None	
	Network RJ-45	2 10/100/1000 NIC ports (1 NIC shared for the HP ProLiant Lights Out 100i Remote Management)	
	Serial	1	
	Graphics	1	
	USB	3 (two front, one internal) NOTE: Please see the following URL for additional information regarding USB support: http://h18004.www1.hp.com/products/servers/platforms/usb-support.html.	
	Management	1 Optional Dedicated LO100i Management Port	
	Health LED	1 front	
	Power	1 front	
	UID	1 front	

Standard Features

Industry Standard Compliance	ACPI V2.0 Compliant PCI 2.2 Compliant PXE Support WOL Support Microsoft® Logo certifications IPMI 2.0 DCMI 1.0 SMASH CLP compliant
Server Power Cords	One 6' Highline (IEC-IEC) power cord ships standard NOTE: HP ProLiant SL servers are primarily connected to PDU's in data center racks so they ship standard with only a PDU power cord (416151-B21). If a user wishes to power a ProLiant SL server using a 110V receptacle (NEMA-15), the NEMA power cord (227099-001) must be ordered separately. NOTE: If customers require a power cord, they can check the power cord matrix for the appropriate cord. Please see the following power cord matrix: http://www.hp.com/go/powercordmatrix.
UPS and PDU Power Cord Matrix	Please see the UPS and PDU cable matrix's on the HP Power Protection and Management page. Under Power Cords, click on the "HP Power Cord Matrix" link. That link will list cable descriptions, requirements, and specifications for UPS and PDU units. Please see the following link: www.hp.com/products/powercords.
HP Common Slot Power Supplies	HP has a new design for ProLiant power supplies. The new Common Slot (CS) Power Supply provides the customer with commonality in power supplies across multiple platforms to save on the cost of spares and allows HP to offer multiple power solutions to fit the customers' needs. Many HP ProLiant Servers come with or are compatible with high-efficiency HP CS Power Supplies. These power supplies are designed for high-efficiency power without degrading performance of the ProLiant server. HP CS Power Supplies options for this server have efficiency ratings up to 94%. There are six power options available, depending on the configuration of your server. To make sure you select the correct power supply to meet your configuration, we suggest that you use the HP Power Advisor to decide the "Right-Size" for your configuration. All HP Common Slot power sources are UL, CE Mark Compliant, Hot Plug and Redundant (redundancy dependent on node configurations). It is highly recommended that you use the HP Power Calculator in defining the "Right-Size" power supply for your needs. The HP ProLiant CS Power supplies meet multiple Energy Efficiency Initiatives including: • Climate Savers Computing Initiative (CSCI) Silver, Gold, and Platinum power efficiency ratings • ECOS Consulting/80PLUS Silver, Gold, and Platinum power efficiency ratings Optional power supplies can be purchased through power supply option kits (see Power Supply Options for part numbers).

Standard Features

System Fans	Non redundant model - 8 fans required Redundant model - redundant fan kit required NOTE: all 8 fan bays must be populated with either redundant or non-redundant fans NOTE: mixing and matching of fans is not allowed
Operating Systems and Virtualization Software Support for ProLiant Servers	Microsoft Windows Server Red Hat Enterprise Linux (RHEL) SUSE Linux Enterprise Server (SLES) VMware ESX Citrix Essentials for XenServer Oracle Solaris NOTE: For more information on HP's Certified and Supported ProLiant Servers for OS and Virtualization Software and latest listing of software drivers available for your server including how to purchase from HP, please visit our OS Support Site at: http://www.hp.com/go/ossupport and our driver download page http://www.hp.com/support/SL170sG6.
Graphics	32MB shared supporting 1600x1200x16M resolution
Form Factor	HP ProLiant s6500 Chassis - 4U HP ProLiant SL170s G6 1U half width server tray
Embedded Manageability	**HP ProLiant LO100** HP ProLiant Onboard Administrator Powered by Lights-Out 100 is standard with this server and has LO100i Advanced Licenses for Virtual KVM and Virtual Media available as options. Standard Features: • Embedded IPMI standard reporting • System event log access • Remote Serial console (serial redirection) • Browser, Telnet access • SMASH-CLP compliant • IPMI 2.0 compliant • DCMI 1.0 compliant • Secure Socket Layer Encryption • Secure Shell Encryption Licensed Features • Virtual media (Floppy, CD, USB 2.0) with Advanced License • Virtual KVM with Advanced License

Standard Features

Security	Power-on password Setup password Diskette boot control Secure Sockets Layer (SSL) Secure Shell (SSH)

Warranty	This product is covered by a global limited warranty and supported by HP Services and a worldwide network of HP Authorized Channel Partners. Hardware diagnostic support and repair is available for one year from date of purchase. Support for software and initial setup is available for 90 days from date of purchase. Enhancements to warranty services are available through HP Care Pack services or customized service agreements. Hard drives have either a one year or three year warranty. NOTE: Server Warranty includes 1 year Parts, 1 year Labor, 1-year on-site support with next business day response. Warranty repairs may be accomplished through the use of Customer Self Repair (CSR) parts. These parts fall into two categories: 1) Mandatory CSR parts are designed for easy replacement. A travel and labor charge will result when customers decline to replace a Mandatory CSR part; 2) Optional CSR parts are also designed for easy replacement but may involve added complexity. Customers may choose to have HP replace Optional CSR parts at no charge. Additional information regarding worldwide limited warranty and technical support is available at: http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html.

Optional Features

HP Insight Control management software	HP Insight Control for Linux	HP Insight Control for Linux (IC-Linux), as a product option, delivers essential lifecycle management that can help save time and money by integrating discovery, server deployment, firmware updates & provisioning, health & performance management, remote management, and virtualization. This makes it easy to optimize your IT infrastructure through a single, simple management console. The IC-Linux suite installs and licenses software modules that are integrated into HP System Insight Manager (HP SIM). HP Insight Control for Linux serves environments requiring Linux-based management consoles. See www.hp.com/go/ic-linux. HP Insight Control for Linux includes one year of 24 x 7 HP Software Technical Support and Update Service ensuring rapid access to HP support staff and proactive delivery of software updates. For more information about this service, please visit: http://www.hp.com/services/insight
	HP Insight Rapid Deployment software	HP Insight Rapid Deployment software (RDP) extends HP Systems Insight Manager with a complete deployment solution for HP ProLiant servers. RDP provides a central location (running on a Windows CMS) to configure server hardware, deploy Windows, Linux and VMware ESX operating environments and install HP ProLiant Support Pack drivers using images and scripted profiles. For more information, visit: http://www.hp.com/go/rdp.
Core Infrastructure Management	HP Systems Insight Manager	HP Systems Insight Manager (HP SIM) provides a unified, secure and extensible standards-based environment to centrally manage servers, storage and other infrastructure devices, (both HP and non-HP) across multiple operating system platforms. For additional information, please see: http://www.hp.com/go/insight.
	Subscriber's Choice	Subscriber's Choice Driver and Support Alerts/Notifications is a web-based email subscription service that provides software and driver change notifications for ProLiant products. Sign up at: http://www.hp.com/go/subscriberschoice and customize your profile to receive various new alerts as they become available, on a weekly or monthly basis.
	ROMPaq, software and latest drivers	The latest software, drivers, and firmware fully optimized and tested for your ProLiant server and options; downloaded from Software and Drivers download pages website at: http://www.hp.com/go/support and from www.hp.com/servers/easysetup. Contains the following: • HP Insight Management Agents for Systems Insight Manager (SIM) Integration • HP Systems Management Homepage • Array Configuration Utility (ACU) • Array Diagnostics Utility (ADU) • HP Insight Diagnostics

Optional Features

HPC Interconnects

NOTE: High Performance Computing (HPC) interconnect technologies are available for this server under the HP Cluster Platform product portfolio. These high-speed interconnects are fully supported by HP when they are part of these configure to order clusters. Solutions can be defined with a lot of flexibility with the help of configuration tools. Please visit the following URL to configure HPC Clusters with InfiniBand Interconnects: http://www.hp.com/techservers/clusters/ucp/index.html

InfiniBand	PCI-Express adapters

Factory Express Portfolio for Servers and Storage

HP Factory Express offers configuration, customization, integration and deployment services for HP servers and storage products. Customers can choose how their factory solutions are built, tested, integrated, shipped and deployed.

Factory Express offers service packages for simple configuration, racking, installation, complex configuration and design services as well as individual factory services, such as image loading, asset tagging, and custom packaging. HP products supported through Factory Express include a wide array of servers and storage: HP Integrity, HP ProLiant, HP ProLiant Server Blades, HP BladeSystem, HP 9000 servers as well as the MSAxxxx, VA7xxx, EVA, XP, rackable tape libraries and configurable network switches.

For more information on Factory Express services for your specific server model please contact your sales representative or go to: http://www.hp.com/go/factory-express.

HP Enterprise Configurator

The HP eConfigure Enterprise Configurator now provides factory default racking for our HP hardware portfolio. This approach is aligned with our strategic direction to meet the needs and expectations of our valued customers. If you require "custom" rack configuration, please contact HP's Customer Business Center or an Authorized Partner for assistance. http://www.hp.com/products/configurator

Service and Support

HP Care Pack Services: Packaged server and storage services for increased uptime, productivity and ROI

When you buy HP server and storage products and solutions, it's also a good time to think about what levels of support you may need. Our portfolio of service options reduce deployment and management worries while helping you get the most out of your server and storage investments. We take a holistic approach to your environment, bridging servers, blades, storage, software and network infrastructures with our packaged HP Care Pack Services for servers and storage.

Protect your business beyond warranty

When it comes to robustness and reliability, standard computing equipment warranties have matured along with technology. Good news that can also create problems stemming from depending on standard warranties designed to only protect against product defects and some downtime causes. Using a standard approach to warranty uplifts, such as HP Care Pack Services, helps reduce downtime risks and provides operational consistency for mission-critical and standard business computing.

HP Care Pack Services: Upgrading or extending standard server and storage warranties cost effectively

HP Care Pack Services offer a standard reactive hardware and software support services suite sold separately, or combined with our Support Plus and Support Plus 24 services. The portfolio also provides a combination of integrated proactive and reactive services, such as Proactive 24 Service and Critical Service. In addition with HP Proactive Select, you can acquire the specific proactive constancy and technical services. HP Proactive Select menu offers a broad set of service options that you can mix and match depending on your specific requirements. Proactive service options include offers for server, storage, network, SAN device, software, environment and education services.

HP server and storage lifecycle support services offer a full spectrum of customer care-from technology support to complex migrations to complete managed services. HP Factory Express provides customization, integration and deployment services for turnkey solutions. HP Education Services offer flexible, comprehensive training on to help your IT staff get the most out of your server and storage investments. HP Financial solutions extend innovative financing and cost-effective asset management programs-from purchase to equipment retirement.

Learn more: www.hp.com/services/servers and www.hp.com/services/storage

NOTE: Care Pack Services availability may vary by product and country.

HP Care Pack Services are sold by HP and HP Authorized Service Partners:

- Services for customers purchasing from HP or an enterprise reseller are quoted using HP order configuration tools.
- Customers purchasing from a commercial reseller can find HP Care Pack Services at http://www.hp.com/go/lookuptool

Recommended HP Care Pack Services for optimal satisfaction with your HP product

Recommended Services

3-Year HP Hardware Support Onsite Service, 4-hour response, 13x5
Provides you with rapid remote support and if required an HP authorized representative who will arrive on site any time and day of the year to begin hardware maintenance service within 4 hours of the service request being logged.

This service provides a trained HP service specialist to perform an installation that meets HP quality standards, for:

- Help improve or maintain system uptime
- Convenient onsite support
- Committed response time

http://h20195.www2.hp.com/V2/GetPDF.aspx/5982-6547EEE

HP ProLiant Server Hardware Installation
Provides for the basic hardware installation of HP branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner.

- Expedited installation, with all service prerequisites met before the installation is performed
- Installation in accordance with manufacturer's specifications, enhancing the supportability of your HP-installed hardware and software
- Service delivery at a mutually scheduled time
- Allows your IT resources to stay focused on their core tasks and priorities
- Availability of an HP service specialist to answer questions during the onsite delivery of this service

http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-9356EN

Optional HP Care Pack Services that will enhance your HP product experience

Optional Services

3-Year HP Hardware Support Onsite Call-to-Repair (CTR) Service, 6- or 24-hour
As an alternative to our recommended support level, for customers who need committed 24 hour call-to-repair for server hardware.

Provides your IT manager with a team of support specialists who will quickly begin troubleshooting the system to help return the hardware to operating condition within 6 or 24 hours of the initial service request to the HP Global Solution Center.

http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-6636ENN

3-Year HP Hardware Support Onsite Service, next-day response, 9x5
An enhancement to warranty support for products with limited warranty entitlement. Provides high-quality remote assistance and onsite support for your covered hardware if required, helping you to improve product uptime.

http://h20195.www2.hp.com/V2/GetPDF.aspx/5982-6547EEE

Service and Support

eSupport

HP eSupport is a portfolio of technology-based services that assist you with managing your business environment - from the desktop to the data center.

Support Portal
The HP support portal provides one-stop access to the information, tools and services you need to manage the daily operations of your IT environment.

Features include:

- Access to self-solve tools (including search technical knowledge base)
- Efficient logging and tracking of support cases
- Collaboration with other business and IT professionals
- Download of patches and drivers
- Access to diagnostic tools
- Proactive notification of relevant information

Access to certain features of the support portal requires an HP service agreement. To access the support portal, visit: http://www.hp.com/support

HP Insight Remote Support software delivers secure remote support for your HP Servers and Storage, 24 X 7, so you can spend less time solving problems and more time focused on your business. You can have your systems remotely monitored for hardware failure using secure technology that's been proven at thousands of companies around the world. In many cases, you can avoid problems before they occur.

Customer Technical Training

HP Education Services
In today's cost-conscious business environment, IT professionals, developers, consultants and users face an interesting challenge: how to keep up with the latest technologies and expand important skills while delivering profitable results on current projects. To help address this challenge, HP offers innovative training solutions that help keep you up-to-date on virtualization, server, storage, Insight Control, Citrix, Microsoft® and open source/Linux-related topics-while spending less time away from business-critical activities.

HP Services Awards

HP Technology Services continues to be recognized for service and support excellence by customers, partners, industry organizations and publications around the world. Recent honors and award reflect our services team's dedications, technical expertise, professionalism and uncompromising commitment to customer satisfaction.

Additional Services Information

To learn more on HP ProLiant servers, HP BladeSystem servers and HP StorageWorks storage products, please contact your HP sales representative or HP Authorized Channel Partner. Or visit www.hp.com/services/proliant or www.hp.com/services/bladesystem or http://www.hp.com/hps/storage

Pre-configured Models

NOTE: For the Standard Features shipped in the "Factory Integrated Models", please see the "Configuration Information - Factory Integrated Models" section.
NOTE: Pre-configured models ship with the configurations below. Options can be selected from the Core or Additional options section of this QuickSpecs.
NOTE: HP does not allow factory integration of options into pre-configured models. Any additional options purchased will be shipped separately.
NOTE: If you desire a custom configuration please see "Configuration Information - Factory Integrated Models" section of this QuickSpecs.
NOTE: Server SKUs below are the server tray ONLY, a chassis is needed to run servers.
NOTE: Mixing and matching of half width trays is supported - See s6500 Tray mixing support plan.

Performance Models

HP ProLiant SL170s G6 1U Left Half Width Tray X5670 2.93GHz 6-core 2P Server 624773-B21	Processor(s)	(2) Intel® Xeon® Processor X5670 (2.93 GHz,12MB L3 Cache, 95 Watts, DDR3-1333, HT Turbo 2/2/2/2/3/3)
	Cache Memory	12MB (1 x 12MB) Level 3 cache
	Memory	24 GB (6 x 4 GB) PC3-10600R (DDR3-1333) Registered DIMM NOTE: Total of 16 DIMM slots.
HP ProLiant SL170s G6 1U Right Half Width Tray X5670 2.93GHz 6-core 2P Server 624772-B21	Network Controller	HP NC362i Integrated Dual Port Gigabit Server Adapter
	Storage Controller	HP Embedded Smart Array B110i SATA RAID Controller (RAID 0, 1, 10)
	Hard Drive	None ship standard
	Internal Storage	2 LFF or 4 SFF Hard drives
	Power Supply	Chassis sold separately
	Fans	Chassis sold separately
	Form Factor	1U Half Width server tray
	Warranty	Server Warranty includes 1 year Parts, 1 year Labor, 1-year on-site support with next business day response.

Base Models

HP ProLiant SL170s G6 left half width tray, E5649 638886-B21	Processor(s)	(1) Intel® Xeon® Processor E5649 (2.53 GHz, 12MB L3 Cache, 80 Watts, DDR3-1066, HT Turbo 1/1/1/1/2/2)
	Cache Memory	12MB (1 x 12MB) Level 3 cache
HP ProLiant SL170s G6 right half width tray, E5649 638885-B21	Memory	12 GB (3 x 4 GB) PC3-10600R (DDR3-1333) Registered DIMM NOTE: Total of 16 DIMM slots.
	Network Controller	HP NC362i Integrated Dual Port Gigabit Server Adapter
	Storage Controller	HP Embedded Smart Array B110i SATA RAID Controller (RAID 0, 1, 10)
	Hard Drive	None ship standard
	Internal Storage	2 LFF or 4 SFF Hard drives
	Power Supply	Chassis sold separately
	Fans	Chassis sold separately
	Form Factor	1U Half Width server tray
	Warranty	Server Warranty includes 1 year Parts, 1 year Labor, 1-year on-site support with next business day response.

Pre-configured Models

HP ProLiant SL170s G6 1U Left Half Width Tray E5640 2.66GHz 4-core 1P Server 624775-B21	Processor(s)	(1) Intel® Xeon® Processor E5640 (2.66 GHz, 12MB L3 Cache, 80 Watts, DDR3-1066, HT Turbo 1/1/2/2)
	Cache Memory	12MB (1 x 12MB) Level 3 cache
	Memory	12 GB (3 x 4 GB) PC3-10600R (DDR3-1333) Registered DIMM NOTE: Total of 16 DIMM slots.
HP ProLiant SL170s G6 1U Right Half Width Tray E5640 2.66GHz 4-core 1P Server 624774-B21	Network Controller	HP NC362i Integrated Dual Port Gigabit Server Adapter
	Storage Controller	HP Embedded Smart Array B110i SATA RAID Controller (RAID 0, 1, 10)
	Hard Drive	None ship standard
	Internal Storage	2 LFF or 4 SFF Hard drives
	Power Supply	Chassis sold separately
	Fans	Chassis sold separately
	Form Factor	1U Half Width server tray
	Warranty	Server Warranty includes 1 year Parts, 1 year Labor, 1-year on-site support with next business day response.

Entry Models

HP ProLiant SL170s G6 1U Left Half Width Tray E5620 2.40GHz 4-core 1P Server 622531-B21	Processor(s)	(1) Intel® Xeon® Processor E5620 (2.40 GHz, 12MB L3 Cache, 80 Watts, DDR3-1066, HT Turbo 1/1/2/2)
	Cache Memory	12MB (1 x 12MB) Level 3 cache
	Memory	6 GB (3 x 2 GB) PC3-10600R (DDR3-1333) Registered DIMM NOTE: Total of 16 DIMM slots.
HP ProLiant SL170s G6 1U Left Half Width Tray E5640 2.66GHz 4-core 1P Server 624775-B21	Network Controller	HP NC362i Integrated Dual Port Gigabit Server Adapter
	Storage Controller	HP Embedded Smart Array B110i SATA RAID Controller (RAID 0, 1, 10)
	Hard Drive	None ship standard
	Internal Storage	2 LFF or 4 SFF Hard drives
	Power Supply	Chassis sold separately
	Fans	Chassis sold separately
	Form Factor	1U Half Width server tray
	Warranty	Server Warranty includes 1 year Parts, 1 year Labor, 1-year on-site support with next business day response.

Pre-configured Models

S6500 tray mixing support plan

NOTE: s6500 is a 4U chassis and has a left and a right side.
NOTE: The picture below show how each half of the chassis can be configured.
NOTE: This shows mixing and matching of half width trays.
NOTE: 2U half width tray is NOT supported in middle 2 bays.

1U 1/2Width
1U 1/2Width
1U 1/2W
1U 1/2W

2U 1/2W
2U 1/2W

1U 1/2 W
1U 1/2 W
2U 1/2W

2U 1/2 W
1U 1/2 W
1U 1/2 W

NOTE: This section lists some of the steps required to configure a Factory Integrated Model. To ensure only valid configurations are ordered, HP recommends the use of an HP approved configurator. Contact your local sales representative for information on configurable product offerings and requirements.
NOTE: Configure-to-order (CTO) servers must start with a CTO Chassis.
NOTE: FIO indicates that this option is only available as a factory installable option.
NOTE: If you already have an s6500 chassis skip to Step 1A.

Step 1: Base Configuration (choose one from each list unless otherwise noted)

HP Chassis	NOTE: If you already have an s6500 chassis skip to Step 1A below.	
	HP ProLiant s6500 w/o Fans 4U Configure-to-order Chassis NOTE: You must choose Power Supplies and fans below as the chassis does not include them.	614167-B21
HP Chassis Fans	HP s6500 Redundant Fan Kit NOTE: This kit includes only 1 fan NOTE: This selection must be ordered in quantities of 8.	617856-B21
	HP s6500 Non-Redundant Fan Kit NOTE: This kit includes only 1 fan NOTE: This selection must be ordered in quantities of 8.	617858-B21
HP Rail Kits	HP s6500 4U 3rd Party Rail KIT	601946-B21
	HP s6500 4U Rail KIT	599109-B21
	HP s6500 POD Rail KIT	599108-B21
HP Power Supplies	NOTE: Prior to making a power supply selection it is highly recommended that the HP Power Advisor is run to determine the right size power supply for your server configuration. The HP Power Advisor is located at: www.hp.com/go/hppoweradvisor.	
	HP 750W Common Slot High Efficiency Power Supply Kit	512327-B21
	HP 750W Common Slot Platinum Power Supply Kit	593831-B21
	HP 1200W 12V Hot Plug AC Power Supply	500172-B21
	HP 1200W Common Slot High Efficiency Power Supply Kit	578322-B21
	NOTE: Option Kits contain optional power supply, an IEC power cable and PDU IEC cables.	

Step 1A: Select Nodes

NOTE: Mixing and matching of half width trays is supported in the s6500 chassis.
NOTE: If you do not fill up chassis with servers, the HPs6500 node blank Kit 622372-B21 needs to be ordered for each unpopulated half width 1U space.

HP Server Nodes	HP ProLiant SL170s G6 Right Tray Node Server	622224-B21
	HP ProLiant SL170s G6 Left Tray Node Server	622226-B21

Step 2: Choose Required Node Options (only one of the following from each list unless otherwise noted)

HP Processors	NOTE: If 2 processors are desired, select one xxxxx-L21 and one xxxxxx-B21.	
	Six-Core Processors	
	HP SL170s G6 Intel® Xeon® X5690 (3.46GHz/6-core/12MB/130W) FIO Processor Kit	638859-L21

HP SL170s G6 Intel® Xeon® X5675 (3.06GHz/6-core/12MB/95W) FIO Processor Kit	638863-L21
HP SL170s G6 Intel® Xeon® X5670 (2.93GHz/6-core/12MB/95W) FIO Processor Kit	631463-L21
HP SL170s G6 Intel® Xeon® X5660 (2.80GHz/6-core/12MB/95W) FIO Processor Kit	631465-L21
HP SL170s G6 Intel® Xeon® X5650 (2.66GHz/6-core/12MB/95W) FIO Processor Kit	631468-L21
HP SL170s G6 Intel® Xeon® E5649 (2.53GHz/6-core/12MB/80W) FIO Processor Kit	638876-L21
HP SL170s G6 Intel® Xeon® E5645 (2.53GHz/6-core/12MB/80W) FIO Processor Kit	638878-L21
HP SL170s G6 Intel® Xeon® L5640 (2.26GHz/6-core/12MB/60W) FIO Processor Kit	631487-L21
Quad-Core Processors	
HP SL170s G6 Intel® Xeon® X5687 (3.60GHz/4-core/12MB/130W) FIO Processor Kit	638861-L21
HP SL170s G6 Intel® Xeon® X5672 (3.20GHz/4-core/12MB/95W) FIO Processor Kit	638874-L21
HP SL170s G6 Intel® Xeon® X5667 (3.06GHz/4-core/12MB/95W) FIO Processor Kit	631472-L21
HP SL170s G6 Intel® Xeon® E5640 (2.66GHz/4-core/12MB/80W) FIO Processor Kit	631479-L21
HP SL170s G6 Intel® Xeon® E5630 (2.53GHz/4-core/12MB/80W) FIO Processor Kit	631475-L21
HP SL170s G6 Intel® Xeon® E5620 (2.40GHz/4-core/12MB/80W) FIO Processor Kit	631477-L21
HP SL170s G6 Intel® Xeon® E5606 (2.13GHz/4-core/4MB/80W) FIO Processor Kit	638882-L21
HP SL170s G6 Intel® Xeon® E5506 (2.13GHz/4-core/4MB/80W) FIO Processor Kit	631483-L21
HP SL170s G6 Intel® Xeon® E5603 (2.00GHz/2-core/4MB/80W) FIO Processor Kit	638884-L21
HP SL170s G6 Intel® Xeon® L5630 (2.13GHz/4-core/12MB/40W) FIO Processor Kit	631489-L21
Dual-Core Processors	
HP SL170s G6 Intel® Xeon® E5503 (2.0GHz/2-core/4MB/80W) FIO Processor Kit	631485-L21

NOTE: HT indicates that the processor model supports Intel® Hyper-Threading Technology.

NOTE: Turbo indicates the maximum potential frequency increment when using Intel® Turbo Boost Technology, with 4, 3, 2, and 1 cores active.

NOTE: DDR3 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed.

NOTE: For the Intel 5500 Series, the letter preceding the model number indicates the performance/wattage of the processor. "X" denotes High Performance/Wattage; "E" denotes Enterprise Performance/Wattage (Mainstream); and "L" denotes Lower Wattage.

HP Memory	Registered DIMMs (RDIMMs)	
	HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500656-B21
	HP 4GB (1x4GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500658-B21
	HP 4GB (1x4GB) Quad Rank x8 PC3-8500 (DDR3-1066) Registered CAS-7 Low Power Memory Kit	500660-B21
	HP 4GB (1x4GB) Single Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	593339-B21
	HP 4GB (1x4GB) Single Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit NOTE: Low Voltage DIMMs can only be used with Intel® Xeon® processor 5600 series processors.	604504-B21
	HP 8GB (1x8GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500662-B21
	HP 8GB (1x8GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit NOTE: Low Voltage DIMMs can only be used with Intel® Xeon® processor 5600 series processors.	604506-B21
	HP 16GB (1x16GB) Quad Rank x4 PC3-8500 (DDR3-1066) Registered CAS-7 Memory Kit	500666-B21
	Unbuffered with ECC DIMMs (UDIMMs) NOTE: Maximum 12 DIMMs supported per node.	
	HP 1GB (1x1GB) Single Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500668-B21
	HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500670-B21
	HP 4GB (1x4GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500672-B21
	NOTE: For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: www.hp.com/go/ddr3memory-configurator. NOTE: There is a maximum support limitation of 8 ranks per memory channel (maximum of 2 quad rank DIMMs per channel) NOTE: PC3L is a low voltage memory. NOTE: Memory Min and Max depends on number of processors and type of memory: 1. Processor -> R-Dimm: Min 1 // Max 6 U-Dimm: Min 1 // Max 12 2. Processors -> R-Dimm: Min 2 // Max 6 U-Dimm: Min 2 // Max 12	

Step 3: Choose Additional Factory Integratable Options (only one from each category below)

HP Storage Controllers	HP Smart Array P212/256 1-ports Int/1-ports Ext PCIe x8 FIO SAS Controller NOTE: HP P212 SAS 4HDD Cable Kit is required when adding SAS hard drives using the P212 controller (574001-B21) NOTE: HP z6000 BBWC HDWR KIT is required when adding BBWC (582653-B21)	491191-B21
	HP Smart Array P410/ZM 2-ports Int PCIe x8 FIO SAS Controller NOTE: HP P410 SAS 4HDD Cable Kit is required when adding SAS hard drives using the P410 controller (583997-B21)	462860-B21
	HP Smart Array P410/256 2-ports Int PCIe x8 FIO SAS Controller NOTE: HP P410 SAS 4HDD Cable Kit is required when adding SAS hard drives using the P410 controller (583997-B21) NOTE: HP z6000 BBWC HDWR KIT is required when adding BBWC (582653-B21)	491195-B21
	HP Smart Array P411/256 2-ports Ext PCIe x8 FIO SAS Controller NOTE: HP z6000 BBWC HDWR KIT is required when adding BBWC (582653-B21)	491193-B21
	HP Smart Array P410/ZM 2-ports Int PCIe x8 FIO SAS Controller	462860-B21

Step 4: Choose Additional Options for Factory Integration

NOTE: For additional options, please refer to the "Core Options" and "Additional Options" section below.

Core Options

NOTE: Some options may not be integrated at the factory. To ensure only valid configurations are ordered, HP recommends the use of an HP approved configurator. Contact your local sales representative for additional information.

HP Unique Options	HP z6000 Battery Back Write Cache Hardware Kit	582653-B21
	HP SL170s SFF Enablement Kit NOTE: Includes SFF drive cage and cable for up to 2 SFF drives.	622274-B21
	HP z6000 P410 SAS 4 Hard Drive Power Cable Kit	583997-B21
	HP Dedicated MGT Port Kit	601818-B21
	HP SL160/170 G6 x16 Riser Kit	574806-B21
	HP s6500 Redundant Fan Kit NOTE: It is required that the entire chassis be filled with fans - Part number only contains 1 fan, 8 must be purchased.	617856-B21
	HP s6500 Non-Redundant Fan Kit NOTE: It is required that the entire chassis be filled with fans - Part number only contains 1 fan, 8 must be purchased.	617858-B21
	HP s6500 Chassis Handles Kit	608477-B21
	HP s6500 node blank Kit NOTE: Node blank is needed when removing ½ width tray for service. NOTE: Node blank is needed when not completely filling s6500 chassis. NOTE: 1 node blank is needed for every 1U half width space left in chassis.	622372-B21
	HP s6500 4U 3rd Party Rail KIT	601946-B21
	HP s6500 4U Rail KIT	599109-B21
HP Processor	Six-Core Processors	
	HP SL170s G6 Intel® Xeon® X5690 (3.46GHz/6-core/12MB/130W) Processor Kit	638859-B21
	HP SL170s G6 Intel® Xeon® X5675 (3.06GHz/6-core/12MB/95W) Processor Kit	638863-B21
	HP SL170s G6 Intel® Xeon® X5670 (2.93GHz/6-core/12MB/95W) Processor Kit	631463-B21
	HP SL170s G6 Intel® Xeon® X5660 (2.80GHz/6-core/12MB/95W) Processor Kit	631465-B21
	HP SL170s G6 Intel® Xeon® X5650 (2.66GHz/6-core/12MB/95W) Processor Kit	631468-B21
	HP SL170s G6 Intel® Xeon® E5649 (2.53GHz/6-core/12MB/80W) Processor Kit	638876-B21
	HP SL170s G6 Intel® Xeon® E5645 (2.40GHz/6-core/12MB/80W) Processor Kit	638878-B21
	HP SL170s G6 Intel® Xeon® L5640 (2.26GHz/6-core/12MB/60W) Processor Kit	631487-B21
	Quad-Core Processors	
	HP SL170s G6 Intel® Xeon® X5667 (3.06GHz/4-core/12MB/95W) Processor Kit	631472-B21
	HP SL170s G6 Intel® Xeon® E5640 (2.66GHz/4-core/12MB/80W) Processor Kit	631479-B21
	HP SL170s G6 Intel® Xeon® E5630 (2.53GHz/4-core/12MB/80W) Processor Kit	631475-B21
	HP SL170s G6 Intel® Xeon® E5620 (2.40GHz/4-core/12MB/80W) Processor Kit	631477-B21
	HP SL170s G6 Intel® Xeon® E5606 (2.13GHz/4-core/4MB/80W) Processor Kit	638882-B21
	HP SL170s G6 Intel® Xeon® E5506 (2.13GHz/4-core/4MB/80W) Processor Kit	631483-B21
	HP SL170s G6 Intel® Xeon® E5603 (2.00GHz/2-core/4MB/80W) Processor Kit	638884-B21
	HP SL170s G6 Intel® Xeon® L5630 (2.13GHz/4-core/12MB/40W) Processor Kit	631489-B21
	Dual-Core Processors	
	HP SL170s G6 Intel® Xeon® E5503 (2.0GHz/2-core/4MB/80W) Processor Kit	631485-B21

NOTE: HT indicates that the processor model supports Intel® Hyper-Threading Technology.
NOTE: Turbo indicates the maximum potential frequency increment when using Intel® Turbo Boost Technology, with 4, 3, 2, and 1 cores active.
NOTE: DDR3 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed.
NOTE: For the Intel 5500 Series, the letter preceding the model number indicates the performance/wattage of the processor. "X" denotes High Performance/Wattage; "E" denotes Enterprise Performance/Wattage (Mainstream); and "L" denotes Lower Wattage.

HP Memory	Registered DIMMs (RDIMMs)	
	HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500656-B21
	HP 4GB (1x4GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500658-B21
	HP 4GB (1x4GB) Quad Rank x8 PC3-8500 (DDR3-1066) Registered CAS-7 Low Power Memory Kit	500660-B21
	HP 4GB (1x4GB) Single Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	593339-B21
	HP 4GB (1x4GB) Single Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit NOTE: Low Voltage DIMMs can only be used with Intel® Xeon® processor 5600 series processors.	604504-B21
	HP 4GB (1x4GB) Dual Rank x8 PC3L-10600 (DDR3-1333) Unbuffered CAS-9 Low Power Memory Kit	619488-B21
	HP 8GB (1x8GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500662-B21
	HP 8GB (1x8GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit NOTE: Low Voltage DIMMs can only be used with Intel® Xeon® processor 5600 series processors.	604506-B21
	HP 16GB (1x16GB) Quad Rank x4 PC3-8500 (DDR3-1066) Registered CAS-7 Memory Kit	500666-B21
	Unbuffered with ECC DIMMs (UDIMMs) NOTE: Maximum 12 DIMMs supported per node.	
	HP 1GB (1x1GB) Single Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500668-B21
	HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500670-B21
	HP 4GB (1x4GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500672-B21

NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: www.hp.com/go/ddr3memory-configurator.
NOTE: Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: www.hp.com/go/proliant-energy-efficient.

NOTE: There is a maximum support limitation of 8 ranks per memory channel (maximum of 2 quad rank DIMMs per channel).
NOTE: PC3L is a low voltage memory.

HP Hard Drives

NOTE: The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.
NOTE: Hard drives have either a one year or three year warranty.
NOTE: The hard drives use a quick release carrier.
NOTE: One SL170s SFF Enablement Kit (622274-B21) (is required when installing 2 SFF drives in the LFF space
NOTE: When adding SAS one of the following cable kits needs to be ordered depending on which SAS controller installing - HP P212 SAS 4HDD Cable Kit 574001-B21 or HP P410 SAS 4HDD Cable Kit 583997-B21.

SAS LFF (3.5-inch) Enterprise (ENT) Drives - with quick-release (QR) carrier

HP 600GB 6G SAS 15K rpm LFF (3.5-inch) Quick-release Dual Port Enterprise 3yr Warranty Hard Drive	574758-B21
HP 300GB 6G SAS 15K rpm LFF (3.5-inch) Quick-release Dual Port Enterprise 3yr Warranty Hard Drive	585980-B21
HP 300GB 6G SAS 10K rpm SFF (2.5-inch) Quick-release Dual Port Enterprise 3yr Warranty Hard Drive	574879-B21

SAS LFF (3.5-inch) Midline (MDL) Drives - with quick-release (QR) Carrier

HP 2TB 6G SAS 7.2K rpm LFF (3.5-inch) Quick-release Dual Port Midline 1yr Warranty Hard Drive	574761-B21

SATA LFF (3.5-inch) Entry (ETY) Drives - with quick-release (QR) carrier

HP 160GB 3G SATA 7.2K rpm LFF (3.5-inch) Quick-release Entry 1yr Warranty Hard Drive	574021-B21

SATA LFF (3.5-inch) Midline (MDL) Drives - with quick-release (QR) carrier

HP 2TB 3G SATA 7.2K rpm LFF (3.5-inch) Quick-release Midline 1yr Warranty Hard Drive	574755-B21
HP 1TB 3G SATA 7.2K rpm LFF (3.5-inch) Quick-release Midline 1yr Warranty Hard Drive	574025-B21
HP 500GB 3G SATA 7.2K rpm LFF (3.5-inch) Quick-release Midline 1yr Warranty Hard Drive	574023-B21

SATA SFF (2.5-inch) Midline (MDL) Drives - with quick-release (QR) carrier

HP 500GB 3G SATA 7.2K rpm SFF (2.5-inch) Quick-release Midline 1yr Warranty Hard Drive	574953-B21
HP 160GB 3G SATA 7.2K rpm SFF (2.5-inch) Quick-release Midline 1yr Warranty Hard Drive	574893-B21

NOTE: SATA hard drives have a 1-year warranty.

SATA Midline (MDL) Solid State Drives - with quick-release (QR) carrier

HP 60GB 3G SATA SFF (2.5-inch) Quick-release Midline 1yr Warranty Solid State Drive	586585-B21
HP 120GB 3G SATA SFF (2.5-inch) Quick-release Midline 1yr Warranty Solid State Drive	586587-B21

HP Networking	**Gigabit Ethernet Adapters**	
	HP NC112T PCIe Gigabit Server Adapter	503746-B21
	HP NC360T PCI Express Dual Port Gigabit Server Adapter	412648-B21
	HP NC364T PCI Express Quad Port Gigabit Server Adapter	435508-B21
	HP NC365T 4-port Ethernet Server Adapter	593722-B21
	HP NC373F PCI Express Multifunction Gigabit Server Adapter	394793-B21
	HP NC373T PCI Express Multifunction Gigabit Server Adapter	394791-B21
	HP NC375T PCI Express Quad Port Gigabit Server Adapter	538696-B21
	HP NC382T PCI Express Dual Port Multifunction Gigabit Server Adapter	458492-B21
	10 Gigabit Ethernet Adapters NOTE: No more than two 10GbE I/O devices are supported in a single ProLiant server. NOTE: A minimum of two Gigabytes (2 GB) of server memory is required per each adapter. NOTE: Direct Attach Cable (DAC) for copper environments or fiber transceivers and cables for fiber-optic environments must be purchased separately	
	HP NC522SFP Dual Port 10GbE Server Adapter	468332-B21
	HP NC550SFP Dual Port 10GbE Server Adapter	581201-B21
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: www.hp.com/go/ProLiantNICs.	
	HP 10 GbE PCI-e G2 Dual Port NIC	516937-B21
HP InfiniBand	HP IB 4X QDR CX-2 PCI-e G2 Dual Port HCA	592520-B21
	HP IB 4X DDR CX-2 PCI-e G2 Dual Port HCA	592521-B21
	HP 4X QDR PCI-e G2 QLogic InfiniBand Dual Port HCA	583211-B21
	NOTE: Please see the QuickSpecs for additional information: http://h18000.www1.hp.com/products/quickspecs/13078_na/13078_na.html	
HP I/O Expansion Options	HP SL160/170 G6 x16 Riser Kit	574806-B21
HP Power Supplies	NOTE: Prior to making a power supply selection it is highly recommended that the HP Power Advisor is run to determine the right size power supply for your server configuration. The HP Power Advisor is located at: www.hp.com/go/hppoweradvisor.	
	HP 750W Common Slot High Efficiency Power Supply Kit	512327-B21
	HP 750W Common Slot Platinum Power Supply Kit	593831-B21
	HP 1200W 12V Hot Plug AC Power Supply	500172-B21
	HP 1200W Common Slot High Efficiency Power Supply Kit	578322-B21
	NOTE: Option Kits contain optional power supply, an IEC power cable and PDU IEC cables.	

NOTE: Some options may not be integrated at the factory. To ensure only valid configurations are ordered, HP recommends the use of an HP approved configurator. Contact your local sales representative for additional information.

HP SL Advanced Power Manager	The SL Advanced Power Manager is an optional rack level solution for the HP ProLiant SL6500 which enables server-level DC (or hardware) power on and off and server-level monitoring. In addition, the SL APM will automatically discover SL hardware components which are connected into the SL APM solution. The SL APM does not replace rack PDUs, but is designed to enable the utilization of basic, low cost, rack PDUs while providing the functionality of 'switched' PDUs which provide hardware power on/off of individual servers by turning off the AC power to the power supplies of a given server. Because the SL servers share power supplies to optimize power efficiency, using 'switched' PDUs to turn off the power supplies in the chassis will result in the loss of all servers in that chassis. The SL APM solves this by allowing server-level hardware power on/off of the DC power to the individual server motherboards.	
	HP SL Advance Power Manager	538084-B21
	HP SL APM Distribution Module (connects up to 10 chassis)	620002-B21
HP Rail Options	HP s6500 4U 3rd Party Rail KIT	601946-B21
	HP s6500 4U Rail KIT	599109-B21
HP Storage Controllers	**SAS Controllers**	
	Smart Array P212 Controller NOTE: HP P212 SAS 4HDD Cable Kit is required when adding SAS hard drives using the P212 controller (574001-B21)	
	HP Smart Array P212/ZM 1-ports Int/1-ports Ext PCIe x8 SAS Controller	462828-B21
	HP Smart Array P212/256 1-ports Int/1-ports Ext PCIe x8 SAS Controller	462834-B21
	Smart Array P410 Controller NOTE: HP P410 SAS 4HDD Cable Kit is required when adding SAS hard drives using the P410 controller (583997-B21)	
	HP Smart Array P410/256 2-ports Int PCIe x8 SAS Controller	462862-B21
	HP Smart Array P410/512 BBWC 2-ports Int PCIe x8 SAS Controller	462864-B21
	HP Smart Array P410/512 FBWC 2-ports Int PCIe x8 SAS Controller	578230-B21
	HP Smart Array P410/1G FBWC 2-ports Int PCIe x8 SAS Controller	572532-B21
	Smart Array P411 Controller	
	HP Smart Array P411/256 2-ports Ext PCIe x8 SAS Controller	462830-B21
	HP Smart Array P411/512 BBWC 2-ports Ext PCIe x8 SAS Controller	462832-B21
	HP Smart Array P411/512 FBWC 2-ports Ext PCIe x8 SAS Controller	578229-B21
	HP Smart Array P411/1G FBWC 2-ports Ext PCIe x8 SAS Controller	572531-B21
	Optional Upgrades NOTE: HP z6000 BBWC HDWR KIT is required when adding BBWC (582653-B21)	
	HP 256MB P-series Cache Upgrade NOTE: Supported on HP Smart Array P212 Controller only.	462968-B21

Additional Options

	HP 512MB P-Series Battery Backed Write Cache Upgrade NOTE: Supported on HP Smart Array P410 Controller and HP Smart Array P411 Controller only.	462967-B21
	HP 650 mAh P-Series Battery NOTE: To enable BBWC on the 256MB cache. NOTE: Supported on HP Smart Array P212 Controller.	462969-B21
	HP 512MB Flash Backed Write Cache	534916-B21
	HP 1GB Flash Backed Cache	534562-B21
	HP Smart Array Hot Plug Advance Pack for B110i w/1y 24x7 Supp Physical 1 Svr LTU	TC421A
	NOTE: Please see the following QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/13203_na/13203_na.html (Smart Array P212 Controller) http://h18000.www1.hp.com/products/quickspecs/13201_na/13201_na.html (Smart Array P410 Controller) http://h18000.www1.hp.com/products/quickspecs/13202_na/13202_na.html (Smart Array P411 Controller) http://h18000.www1.hp.com/products/quickspecs/13495_na/13495_na.html (Smart Array Hot Plug Advance Pack for B110i)	
	SCSI HBA	
	HP SC11Xe Ultra320 Single Channel/ PCIe x4 SCSI Host Bus Adapter NOTE: Recommended HBA for SCSI tape drive connect.	412911-B21
	NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/12566_na/12566_na.html (SCSI HBA)	
HP Power Cords	NOTE: HP ProLiant servers ships with an IEC-IEC power cord used for rack mounting with Power Distribution Units (PDUs).	
	HP 1.83m 10A C13 Power Cord	AF556A
	HP 2m 10A C13-C14 Redundant Jumper Cord	AF573A

Additional Options

HP StorageWorks Options	**StorageWorks Fibre Channel HBA**	
	NOTE: The following is a list of all Fibre Channel Host Bus Adapters for Windows and Linux. For detailed compatibility information please see: http://h18006.www1.hp.com/storage/saninfrastructure/hba.html	
	Emulex Fibre Channel HBAs	
	HP StorageWorks 81E 8Gb Single Port PCI-e Fibre Channel Host Bus Adapter	AJ762A
	HP StorageWorks 82E 8Gb Dual Port PCI-e Fibre Channel Host Bus Adapter	AJ763A
	HP StorageWorks FC2142SR 4Gb PCIe Host Bus Adapter	A8002A
	HP StorageWorks FC2242SR 4Gb PCIe DC Host Bus Adapter	A8003A
	QLogic Fibre Channel HBAs	
	HP StorageWorks 81Q PCI-e Fibre Channel Host Bus Adapter	AK344A
	HP StorageWorks 82Q 8Gb Dual Port PCI-e Fibre Channel Host Bus Adapter	AJ764A
	HP StorageWorks FC1142SR 4Gb PCIe Host Bus Adapter	AE311A
	HP StorageWorks FC1242SR 4Gb PCIe DC Host Bus Adapter	AE312A
	StorageWorks SCSI HBA	
	HP StorageWorks U320e SCSI Dual Channel Host Bus Adapter	AH627A
	NOTE: Recommended HBA for MSL SCSI Tape Library connect.	
HP USB and SD Options	HP USB 2-Button Optical Scroll Mouse	DC172B
	HP Standard USB Keyboard US	DT528A#ABA
HP Care Pack Services	HP 3y Nbd s6500 HW Support	UR398E
	HP 3y Nbd w/DMR s6500 HW Supp	UR399E
	HP 3y 4h 13x5 s6500 HW Support	UR400E
	HP 3y 4h13x5 w/DMR s6500 HWSupp	UR401E
	HP 3y 4h 24x7 s6500 HW Support	UR402E
	HP 3y 4h24x7 w/DMR s6500 HWSupp	UR403E
	HP 3y 6h 24x7 CTR s6500 HW Supp	UR404E
	HP3y 6h24x7 CTRw/DMR s6500 HWSup	UR405E
	HP 4y Nbd s6500 HW Support	UR406E
	HP 4y Nbd w/DMR s6500 HW Supp	UR407E
	HP 4y 4h 13x5 s6500 HW Support	UR408E
	HP 4y 4h13x5 w/DMR s6500 HWSupp	UR409E
	HP 4y 4h 24x7 s6500 HW Support	UR410E
	HP 4y 4h24x7 w/DMR s6500 HWSupp	UR411E
	HP 4y 6h 24x7 CTR s6500 HW Supp	UR412E
	HP4y 6h24x7 CTRw/DMR s6500 HW Supp	UR413E
	HP 5y Nbd s6500 HW Support	UR414E
	HP 5y Nbd w/DMR s6500 HW Supp	UR415E
	HP 5y 4h 13x5 s6500 HW Support	UR416E
	HP 5y 4h13x5 w/DMR s6500 HWSupp	UR417E

Additional Options

HP 5y 4h 24x7 s6500 HW Support	UR418E
HP 5y 4h24x7 w/DMR s6500 HWSupp	UR419E
HP 5y 6h 24x7 CTR s6500 HW Supp	UR420E
HP5y 6h24x7 CTRw/DMR s6500 HW Supp	UR421E
HP 3y 24x7 24h CTR s6500 HW Sup	UR425E
HP 3y24x7 24hCTRwDMR s6500 HW Supp	UR426E
HP 4y 24x7 24h CTR s6500 HW Sup	UR427E
HP 4y24x7 24hCTRwDMR s6500 HW Supp	UR428E
HP 5y 24x7 24h CTR s6500 HW Sup	UR429E
HP 5y24x7 24hCTRwDMR s6500 HW Supp	UR430E

NOTE: For more information, customer/resellers can contact: http://www.hp.com/services/carepack.

HP ProLiant SL170s Generation 6 (G6)

NOTE: Memory configurations listed do not apply to "Factory Integrated Models".

NOTE: Chart does not represent all possible memory configurations.

DDR3 memory population guidelines

For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: www.hp.com/go/ddr3memory-configurator

Some DIMM installation guidelines are summarized below:

- For servers with sixteen (16) memory slots
- There are three (3) channels per processor; six (6) channels per server
- There are two (3) DIMM slots for two memory channels and one (2) DIMM slots for one memory channel; sixteen (16) total slots
- Memory channels 1 and 2 consists of the six (6) DIMMs that are furthest from the processor
- Memory channel 3 consists of the two (2) DIMMs that are closest to the processor
- DIMM slots that are white should be populated first
- Do not mix Unbuffered memory (UDIMMs) with Registered memory (RDIMMs)
- Do not install DIMMs if the corresponding processor is not installed
- If only one processor is installed in a 2CPU system, only half of the DIMM slots are available
- To maximize performance, balance the total memory capacity between all installed processors
- It is not required, but it is recommended to load the channels similarly if possible
- You can only have up to eight (8) ranks installed per channel
- You can only install two quad-rank DIMMs per channel
- You can only install two UDIMMs per channel; if available, the third slot in the channel must remain empty
- Populate DIMMs from heaviest load (quad-rank) to lightest load (single-rank) within a channel
- Heaviest load (DIMM with most ranks) within a channel goes furthest from the chipset
- For memory mirroring mode, channel 3 must be unpopulated. Channels 1 and 2 are populated identically
- For lock-step mode, channel 3 must be unpopulated. DIMMs in channels 1 and 2 will be installed in pairs. The paired slots will be 1,4; 2,5; 3;6 on a 3DPC system or 1,4; 2,5; on a 2DPC system
- If mixing DIMM voltage is a requirement, please note that the DIMMs will run at 1.5V since all 1.35V are capable of supporting 1.5V operations

Memory

DIMM slot/capacity/populated speed table										
DIMM Type	Registered DIMMS (RDIMMs)							Unbuffered with ECC DIMMs (UDIMMs)		
DIMM Rank	Single Rank (1R)	Dual Rank (2R)				Quad Rank (4R)		Single Rank (1R)	Dual Rank (2R)	
DIMM Capacity	4GB	2GB	4GB	8GB	8GB	4GB	16GB	1GB	2GB	4GB
DIMM Native Speed (MHz)	1333	1333	1333	1066	1333	1066	1066	1333	1333	1333
	SLOTS THAT CAN BE POPULATED									
18 slot servers	16	16	16	16	16	12	12	12	12	12
	MAXIMUM CAPACITY (GB)									
	64	32	64	128	128	48	192	12	24	48
	POPULATED DIMM SPEED (MHz)									
1 DIMM Per Channel	1333	1333	1333	1066	1333	1066	1066	1333	1333	1333
2 DIMM Per Channel	1333*	1333*	1333*	1066	1333*	800	800	1333	1333	1333*
3 DIMM Per Channel	800	800	800	800	800	n/a	n/a	n/a	n/a	n/a
*Supported at 1333 via setting in ROM based setup utility (RBSU)										

NOTES:

- PC3-10600 DIMMs have a maximum speed of 1333MHz. PC3-8500 DIMMs have a maximum speed of 1066MHz
- Mixing DIMM speeds is allowed, but the system processor speed rules always override the DIMM capabilities
- If you do mix DIMM speeds, the memory bus will default to the minimum clock rate of all DIMMs in the system - even if the slower DIMM is on the other processor
- If you install 1x 1066MHz DIMM in channel 1 and 1x 1333MHz DIMM in channel 2, the maximum speed will be 1066MHz If you install 1x 1066MHz DIMM in channel 1 and 5x 1333MHz DIMMs with 1 DIMM Per Channel (DPC) in each of the other channels, the maximum speed will be 1066MHz
- If you install 3DPC in one channel (if applicable) and 1DPC in all other channels, you run at 800MHz
- Maximum memory speed will also depend on the processor installed
  References to the above MHz speeds are for the various speeds of DDR3 DIMMs; 1333 refers to DDR3-1333, etc.

DIMM slot and configuration diagrams
Basic memory slot & population diagram

- Population order; start with "A" first, "B" second, "C" third, etc.

Memory

16 DIMM SLOTS (8 per CPU node)					
	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	A	1	A	Chnl 1
	2	D	2	D	
	3	G	3	G	
Chnl 2	4	B	4	B	Chnl 2
	5	E	5	E	
	6	H	6	H	
Chnl 3	7	C	7	C	Chnl 3
	8	F	8	F	

Standard memory configuration (1 CPU model)

- 6GB, consisting of three (3) 2GB dual-rank PC3-10600E UDIMMs

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	A; 2GB DIMM	1	A; empty	Chnl 1
	2	D; empty	2	D; empty	
	3	G; empty	3	G; empty	
Chnl 2	4	B; 2GB DIMM	4	B; empty	Chnl 2
	5	E; empty	5	E; empty	
	6	H; empty	6	H; empty	
Chnl 3	7	C; 2GB DIMM	7	C; empty	Chnl 3
	8	F; empty	8	F; empty	

Standard memory plus optional memory (1 CPU model)

- 12GB, consisting of three (3) 2GB UDIMMs plus three (3) 2GB UDIMMs
  - 6x 2GB dual-rank PC3-10600E UDIMMs

Memory

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	A; 2GB DIMM	1	A; empty	Chnl 1
	2	D; 2GB DIMM	2	D; empty	
	3	G; empty	3	G; empty	
Chnl 2	4	B; 2GB DIMM	4	B; empty	Chnl 2
	5	E; 2GB DIMM	5	E; empty	
	6	H; empty	6	H; empty	
Chnl 3	7	C; 2GB DIMM	7	C; empty	Chnl 3
	8	F; 2GB DIMM	8	F; empty	

Standard memory replaced with optional memory (1 CPU model)
RDIMM maximum configuration

- 96GB, consisting of eight (6) 16GB dual-rank PC3-8500 RDIMMs

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	A; 16GB DIMM	1	A; empty	Chnl 1
	2	D; 16GB DIMM	2	D; empty	
	3	G; empty	3	G; empty	
Chnl 2	4	B; 16GB DIMM	4	B; empty	Chnl 2
	5	E; 16GB DIMM	5	E; empty	
	6	H; empty	6	H; empty	
Chnl 3	7	C; 16GB DIMM	7	C; empty	Chnl 3
	8	F; 16GB DIMM	8	F; empty	

Standard memory replaced with optional memory (2 CPU model)
RDIMM maximum configuration

- 192GB, consisting of twelve (12) 16GB PC3-8500 RDIMMs

Memory

	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	A; 16GB DIMM	1	A; 16GB DIMM	Chnl 1
	2	D; 16GB DIMM	2	D; 16GB DIMM	
	3	G; empty	3	G; empty	
Chnl 2	4	B; 16GB DIMM	4	B; 16GB DIMM	Chnl 2
	5	E; 16GB DIMM	5	E; 16GB DIMM	
	6	H; empty	6	H; empty	
Chnl 3	7	C; 16GB DIMM	7	C; 16GB DIMM	Chnl 3
	8	F; 16GB DIMM	8	F; 16GB DIMM	

UDIMM maximum configuration

- 48GB, consisting of twelve (12) 4GB dual-rank PC3-10600 UDIMMs

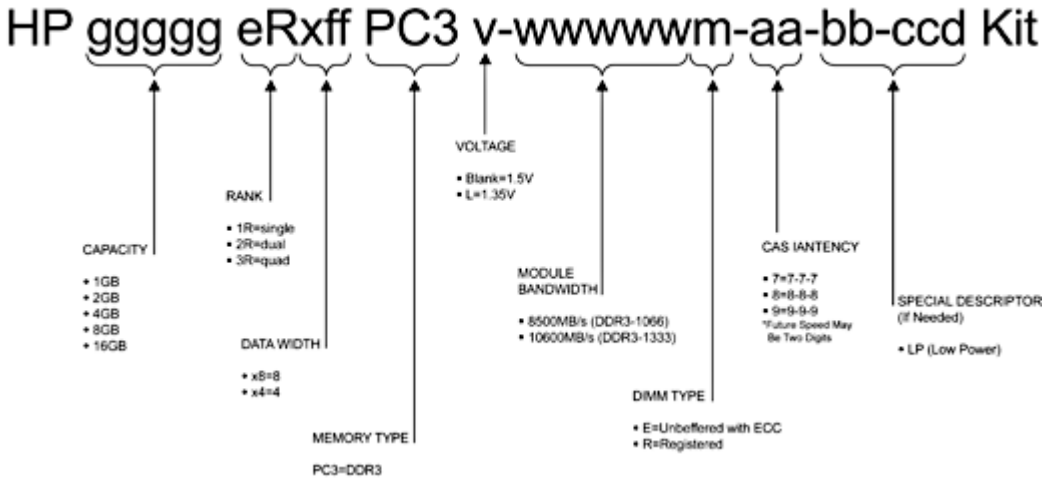
	CPU1		CPU2		
	slot #	population order	slot #	population order	
Chnl 1	1	A; 4GB DIMM	1	A; 4GB DIMM	Chnl 1
	2	D; 4GB DIMM	2	D; 4GB DIMM	
	3	G; empty	3	G; empty	
Chnl 2	4	B; 4GB DIMM	4	B; 4GB DIMM	Chnl 2
	5	E; 4GB DIMM	5	E; 4GB DIMM	
	6	H; empty	6	H; empty	
Chnl 3	7	C; 4GB DIMM	7	C; 4GB DIMM	Chnl 3
	8	F; 4GB DIMM	8	F; 4GB DIMM	

NOTE: Capacity references are rounded to the common Gigabyte values.

- 1GB = 1024MB
- 2GB = 2048MB
- 4GB = 4096MB
- 8GB = 8192MB
- 16GB = 16384MB

DDR3 memory options part number decoder

Memory



Following are memory options available from HP:

HP Memory	Registered DIMMs (RDIMMs)	
	HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500656-B21
	HP 4GB (1x4GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500658-B21
	HP 4GB (1x4GB) Quad Rank x8 PC3-8500 (DDR3-1066) Registered CAS-7 Low Power Memory Kit	500660-B21
	HP 4GB (1x4GB) Single Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	593339-B21
	HP 4GB (1x4GB) Single Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit NOTE: Low Voltage DIMMs can only be used with Intel® Xeon® processor 5600 series processors.	604504-B21
	HP 4GB (1x4GB) Dual Rank x8 PC3L-10600 (DDR3-1333) Unbuffered CAS-9 Low Power Memory Kit	619488-B21
	HP 8GB (1x8GB) Dual Rank x4 PC3-10600 (DDR3-1333) Registered CAS-9 Memory Kit	500662-B21
	HP 8GB (1x8GB) Dual Rank x4 PC3L-10600 (DDR3-1333) Registered CAS-9 Low Power Memory Kit NOTE: Low Voltage DIMMs can only be used with Intel® Xeon® processor 5600 series processors.	604506-B21
	HP 16GB (1x16GB) Quad Rank x4 PC3-8500 (DDR3-1066) Registered CAS-7 Memory Kit	500666-B21
	Unbuffered with ECC DIMMs (UDIMMs) NOTE: Maximum 12 DIMMs supported per node	
	HP 1GB (1x1GB) Single Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500668-B21
	HP 2GB (1x2GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500670-B21

HP 4GB (1x4GB) Dual Rank x8 PC3-10600 (DDR3-1333) Unbuffered CAS-9 Memory Kit	500672-B21

NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: www.hp.com/go/ddr3memory-configurator.
NOTE: Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: www.hp.com/go/proliant-energy-efficient.
NOTE: There is a maximum support limitation of 8 ranks per memory channel (maximum of 2 quad rank DIMMs per channel).
NOTE: PC3L is a low voltage memory.

(waiting on image)

1-2 Two 3.5" or Four 2.5" Non-hot plug SATA hard drive bays - Using quick release carrier

Drive Support

Hard Drives

NOTE: The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components.

NOTE: Hard drives have either a one year or three year warranty.

SAS Hot Plug LFF (3.5-inch) Enterprise (ENT) Drives - with quick-release (QR) carrier

	Quantity Supported	Position Supported	Controller
600GB 6G SAS 15K 300GB 6G SAS 15K 300GB 6G SAS 10K			HP Embedded SATA RAID Controller NOTE: Transfer rate: 3 Gb/s SATA.

SATA LFF (3.5-inch) Entry (ETY) Drives - with quick-release (QR) carrier

	Quantity Supported	Position Supported	Controller
160GB 3G SATA 7.2K	Up to 2	1-2	HP Embedded SATA RAID Controller NOTE: Transfer rate: 3 Gb/s SATA.

SATA LFF (3.5-inch) Midline (MDL) Drives - with quick-release (QR) carrier

	Quantity Supported	Position Supported	Controller
2TB 6G SAS 7.2K 2TB 3G SATA 7.2K 1TB 3G SATA 7.2K 500GB 3G SATA 7.2K	Up to 2	1-2	HP Embedded SATA RAID Controller NOTE: Transfer rate: 3 Gb/s SATA.

SATA SFF (2.5-inch) Midline (MDL) Drives - with quick-release (QR) carrier

	Quantity Supported	Position Supported	Controller
500GB 3G SATA 7.2K 160GB 3G SATA 7.2K	Up to 4	1-4	HP Embedded SATA RAID Controller NOTE: Transfer rate: 3 Gb/s SATA.

SATA Midline (MDL) Solid State Drives - with quick-release (QR) carrier

	Quantity Supported	Position Supported	Controller
60GB 3.0G SATA SSD 120GB 3.0G SATA SSD	Up to 4	1-4	HP Embedded SATA RAID Controller for up to 6 NOTE: Transfer rate: 3 Gb/s SATA.

Power Specifications

HP 750W Common Slot High Efficiency Power Supply Kit							
Part Number	512327-B21						
Input Voltage Range (V rms)	100 to 240						
Frequency Range (Nominal) (Hz)	50/60						
Nominal Input Voltage (Vrms)	100	120	200	208	220	230	240
Maximum Rated Output Wattage Rating	750	750	750	750	750	750	750
Nominal Input Current (A rms)	8.9	7.4	4.3	4.1	3.9	3.7	3.6
Maximum Rated Input Wattage Rating (Watts)	857	847	824	824	820	820	820
Maximum Rated VA (Volt-Amp)	894	884	859	854	854	854	
Efficiency (%)	87.5	88.5	91	91	91.5	91.5	91.5
Power Factor	0.97						
Leakage Current (mA)	0.42	0.50	0.83	0.87	0.92	0.96	1.00
Maximum Inrush Current (A peak)	30						
Maximum Inrush Current duration (mS)	20						
Maximum British Thermal Unit Rating (BTU-Hr)	2925	2892	2812	2812	2797	2797	2797

HP 750W Common Slot Platinum Power Supply Kit							
Part Number	593831-B21						
Input Voltage Range (V rms)	100 to 240						
Frequency Range (Nominal) (Hz)	50/60						
Nominal Input Voltage (Vrms)	100	120	200	208	220	230	240
Maximum Rated Output Wattage Rating	750	750	750	750	750	750	750
Nominal Input Current (A rms)	8.6	7.1	4.2	4.0	3.8	3.6	3.4
Maximum Rated Input Wattage Rating (Watts)	841	828	809	808	807	806	805
Maximum Rated VA (Volt-Amp)	863	850	830	829	828	827	826
Efficiency (%)	89.2	90.6	92.7	92.8	93	93.1	93.2
Power Factor	0.985						
Leakage Current (mA)	0.42	0.50	0.83	0.87	0.92	0.96	1.00
Maximum Inrush Current (A peak)	30						
Maximum Inrush Current duration (mS)	20						
Maximum British Thermal Unit Rating (BTU-Hr)	2868	2825	2761	2757	2753	2749	2747

Power Specifications

HP 1200W 12V Hot Plug AC Power Supply							
Part Number	500172-B21						
Input Voltage Range (V rms)	100 to 240						
Frequency Range (Nominal) (Hz)	50/60						
Nominal Input Voltage (Vrms)	100	120	200	208	220	230	240
Maximum Rated Output Wattage Rating	800	900	1200	1200	1200	1200	1200
Nominal Input Current (A rms)	9.7	9.0	7.0	6.8	6.4	6.1	5.9
Maximum Rated Input Wattage Rating (Watts)	930	1034	1348	1348	1348	1348	1348
Maximum Rated VA (Volt-Amp)	970	1079	1406	1406	1406	1406	1406
Efficiency (%)	86	87	89	89	89	89	89
Power Factor	0.97						
Leakage Current (mA)	0.42	0.50	0.83	0.87	0.92	0.96	1.00
Maximum Inrush Current (A peak)	30						
Maximum Inrush Current duration (mS)	20						
Maximum British Thermal Unit Rating (BTU-Hr)	3174	3530	4600	4600	4600	4600	4600

HP 1200W Common Slot High Efficiency Power Supply Kit							
Part Number	578322-B21						
Input Voltage Range (V rms)	100 to 240						
Frequency Range (Nominal) (Hz)	50/60						
Nominal Input Voltage (Vrms)	100	120	200	208	220	230	240
Maximum Rated Output Wattage Rating	800	900	1200	1200	1200	1200	1200
Nominal Input Current (A rms)	9.3	8.6	6.7	6.5	6.1	5.8	5.6
Maximum Rated Input Wattage Rating (Watts)	889	989	1290	1290	1290	1290	1290
Maximum Rated VA (Volt-Amp)	927	1031	1345	1345	1345	1345	1345
Efficiency (%)	90	91	93	93	93	93	93
Power Factor	0.97						
Leakage Current (mA)	0.42	0.50	0.83	0.87	0.92	0.96	1.00
Maximum Inrush Current (A peak)	30						
Maximum Inrush Current duration (mS)	10						
Maximum British Thermal Unit Rating (BTU-Hr)	3033	3375	4403	4403	4403	4403	4403

To review typical system power ratings use the Active Answers HP Power Advisor which is available via the online tool located at URL: www.hp.com/go/proliant-energy-efficient or www.hp.com/go/hppoweradvisor

System Unit	**Dimensions** (H x W x D) (with bezel)	6.96 x 17.638 x 35.236in (17.68 x 44.8 x 89.55cm)	
	Weight (approximate)	Maximum (all hard drives, power supplies, and processors installed)	220lb (99.8kg)
	Input Requirements (per power supply)	Rated Line Voltage	90 to 140 VAC 180 to 264 VAC
		Rated Input Current	7.31A at 115VAC 3.6A at 230VAC
		Rated Input Frequency	47 to 63 Hz
		Rated Input Power	855W (at 100 VAC), 840.72W (at 200 VAC)
	Power Specifications	To review typical system power ratings use the HP Power Advisor which is available via the online tool located at URL: www.hp.com/go/proliant-energy-efficient	
	Power Supply Output (per power supply)	Rated Steady-State Power	653.10W (at 100 VAC), 653.08W (at 200 VAC)
	System Inlet Temperature	Operating	50° to 95° F (10° to 35° C) at sea level with an altitude derating of 1.8°F per every 1000 ft (1.0°C per every 305 m) above sea level to a maximum of 10,000 ft (3050 m), no direct sustained sunlight. Maximum rate of change is 18°F/hr (10°C/hr). The upper limit may be limited by the type and number of options installed. System performance may be reduced if operating with a fan fault or above 86°F (30°C).
		Non-operating	-22° to 140° F (-30° to 60° C) Maximum rate of change is 36°F/hr (20°C/hr).
	Relative Humidity (non-condensing)	Operating	10% to 90% relative humidity (Rh), 82.4°F (28°C) maximum wet bulb temperature, non-condensing.
		Non-operating	5% to 95% relative humidity (Rh), 101.7°F (38.7°C) maximum wet bulb temperature, non-condensing.
	Altitude	Operating	10,000 ft (3050 m). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 1500 ft/min (457 m/min).
		Non-operating	30,000 ft (9144 m). Maximum allowable altitude change rate is 1500 ft/min (457 m/min).
	Acoustic Noise	Listed are the declared A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) when the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109).	

		Idle	
		L_{WAd}	6.4
		L_{pAm}	45dBA
		Operating	
		L_{WAd}	6.7
		L_{pAm}	51dBA
	Emissions Classification (EMC)	FCC Rating	Class A
		Normative Standards	CISPR 22; EN55022; EN55024; FCC CFR 47, Pt 15; ICES-003; CNS13438; GB9254; K22;K24; EN 61000-3-2; EN 61000-3-3; EN 60950-1; IEC 60950-1
		NOTE: Product conformance to cited product specifications is based on sample (type) testing, evaluation, or assessment. This product or family of products is eligible to bear the appropriate compliance logos and statements.	

Embedded NC362i PCIe Gigabit Server Adapter	Network Interface	Integrated 10/100/1000BASE-T Transceiver Combines a triple-speed IEEE 802.3TM - Compliant Media Access Controller (MAC) with a triple-speed Ethernet transceiver.	
	Data Transfer Method	Compliant to x4 PCIe Specification	
	Controller	Intel® 82576	
	Network Transfer Rate	10Base-T (Half-Duplex)	10 Mb/s
		10Base-T (Full-Duplex)	20 Mb/s
		100Base-TX (Half-Duplex)	100 Mb/s
		100Base-TX (Full-Duplex)	200 Mb/s
		1000Base-TX (Half and Full-Duplex)	2000Mb/s
	Connector	RJ-45 connector	
	Cable Support	Performs all the physical layer functions for 10BASE-T, 100BASE-T, and 1000BASE-T Ethemet on standard Category 5 UTP	

Environment-friendly Products and Approach	End-of-life Management and Recycling	Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: http://www.hp.com/go/green. To recycle your product, please go to: http://www.hp.com/go/green or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner. The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: http://www.hp.com/go/green. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

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For hard drives, 1GB = 1 billion bytes. Actual formatted capacity is less.